

METHOD FOR TRANSFORMING PHASE SPECTRA TO ABSORPTION SPECTRA

Abstract of the Disclosure

A device and method for determining analyte concentrations within a material sample are provided. A modulating temperature gradient is induced in the sample and resultant, emitted infrared radiation is measured at selected analyte absorbance peaks and reference wavelengths. The modulating temperature gradient is controlled by a surface temperature modulation. One embodiment provides a transfer function relating the surface temperature modulation to a modulation of the measured infrared radiation. Phase and magnitude differences in the transfer function are detected in the presence of the sought-after analyte. These phase and magnitude differences, having a relationship to analyte concentration, are measured, correlated and processed to determine analyte concentration in the material sample. Another embodiment provides a method for transforming thermal phase spectra to absorption spectra for consistent determination of analyte concentration within the sample.

PATENT

H:\DOCS\CTR\OPTISCAN\OPTIS.043PR\OPTIS.043PR2\OPTIS.043A\TRA-7744.DOC
110702
S:\DOCS\TRA\TRA-7744.DOC
110802